

## REMARKS

This AMENDMENT UNDER 37 CFR 1.114 is filed with a Request For Continued Examination under 37 CFR 1.114 and in reply to an Office Action of June 7, 2004, and is believed to be fully responsive thereto for reasons set forth below in greater detail.

Responsive to paragraph 1 of the Official Action, a TRANSMITTAL OF FORMAL DRAWINGS is filed herewith having corrections to Figures 2, 3, 6, 7 and 8.

Reconsideration is respectfully requested of the rejection of the claims herein over Bloomberg in view of the more limited nature of the new set of claims and the following comments on the distinctions and advantages of the present invention and claims over Bloomberg.

Bloomberg discloses a distinctly different approach from the present invention.

Claim 19 specifies,

“splitting the detected text image area into two or more subblocks;  
dividing the two or more subblocks into two or more groups;”

This feature of the present invention is illustrated in Figure 3(b) which illustrates splitting a line of text into 12 subblocks, which are then divided into groups (1) and (2) as illustrated in Figure 3(c).

The Examiner has attempted to read this feature on Figure 9 of Bloomberg, referring to subblock 30 as being divided into multiple groups labeled by “0” and “1” in Figure 9.” In fact, Bloomberg states “portion 30 includes horizontally positioned, linear sequences of rectangular blocks,” col. 11, lines 48-50. The rectangular blocks have a “1” inside and are separated by “0”s, as shown in Figure 9, and the Examiner is apparently reading the groups as “0” and “1.”

Thus, even though Bloomberg does not disclose the same basic concepts as the present invention at all, the Examiner has still attempted to read the above claim language on Figure 9, with 30 being a subblock and the groups being “0” and “1.”

Bloomberg does not split and divide an area of text in a similar manner. Figure 2 of Bloomberg illustrates an original text image 10 of a document and a miniature iconic image 20 of the text image 10 which can be placed on the original text image 10, such as in the lower right corner as shown in Figure 5.

Embedded encoded information is placed in the miniature iconic version 20 of the text image, such that the version of the text image replaces the original document image such that the original document image cannot be recovered from the iconic version of the text image.

This is clear from col. 4, lines 24-36,  
The iconic image includes embedded encoded data in a position where the reduced version of text in the original text image would appear, and are rendered as a series of rectangular blocks. At the reduced size, these rectangular blocks appear as straight lines and have the appearance of the familiar “greeked” text, a technique that is used to replace the rendering of actual text when rendering actual text reduces performance or efficiency of an operation. Thus, a viewer of the miniature iconic version 20 who is unable to see a reduced version of the text is not likely to interpret the “greeked” text as a signal of the presence of embedded data, but is more likely to interpret it as a normal consequence of the image reduction operation.

Accordingly, claim 1, for example, distinguishes over Bloomberg by  
“An embedding method for embedding additional watermarking information into the data representing text information as a black and white binary document image.”

Bloomberg does not embed additional watermarking information into data representing text information, but instead inserts encoded data in place of data representing text information, and then places the iconic version as an addition on the original document.

Moreover, although Bloomberg does divide the encoded data into rectangular blocks as illustrated in Figures 8 and 9, particularly Figure 9, which might be considered as subblocks within the context of the claims, Bloomberg does not disclose a step of “dividing said subblocks into two or more groups.”

Moreover, since Bloomberg does not divide the subblocks into two or more groups, Bloomberg also does not disclose steps of,

“extracting features for respective groups; modifying said features based on additional information; embedding the features into said respective groups.”

Claim 1 specifies splitting the embedded text image area into two or more subblocks, and then dividing the two or more subblocks into two or more groups. Bloomberg does not disclose dividing the two or more subblocks into two or more groups in a manner similar to the present invention, and it is clear that the Examiner is attempting to read the claims on Bloomberg totally through hindsight and by an attempted reconstruction of the present invention from the prior art.

Moreover, claim 19 also specifies,

“extracting features for each of the two or more groups;

modifying the extracted features based on the additional watermarking information by increasing the extracted features of one group and decreasing the extracted features of another group;”

Assuming the Examiner's interpretation of group "0" and group "1" in Figure 9 of Bloomberg, Bloomberg does not extract features for each group "0" and for each group "1."

Moreover, Bloomberg does not modify extracted features for each group "0" and for each group "1" by "increasing the extracted features of one group ("0" or "1") and decreasing the extracted features of the second group ("1" or "0").

New claims 20 and 21 have also been drafted to distinguish over Bloomberg. New claim 20 is supported in the specification by page 10, lines 4-5, "there is no significant difference in the total sums of the area of the blocks belonging to each group." New claim 21 is supported in the specification by Figure 3(b) which shows the boundary lines passing through the individual letters.

Referring to Bloomberg, Figure 9, the sum of the total area of the "0" group is totally different from the sum of the total area of the "1" group, and there is absolutely no disclosure in Bloomberg of the subject matter of claim 20.

The "greeked text" of Bloomberg, which is actually encoded information, encoded as shown in Figure 9, must resemble the actual text, and so Bloomberg would never divide the blocks of Figure 9 in a manner as specified by claim 21.

Moreover, claim 24 also specifies

"dividing the detected text image area into two subblocks vertically and two or more subblocks horizontally;

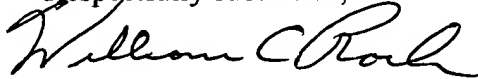
dividing the subblocks into different physically located upper groups and physically located lower groups."

Bloomberg does not disclose "dividing the detected text image area" into two subblocks 30 vertically and two or more subblocks 30 horizontally, and dividing subblocks 30

into different physically located upper groups and different physically located lower groups, as a group has been explicitly interpreted by the Examiner.

This application is now believed to be in condition for allowance, and a Notice of Allowance is respectfully requested. If the Examiner believes a telephone conference might expedite prosecution of this case, it is respectfully requested that he call applicant's attorney at (516) 742-4343.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "William C. Roch". The signature is fluid and cursive, with the first name "William" being more prominent.

William C. Roch

Registration No. 24,972

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WCR/jf

**TRANSMITTAL OF FORMAL DRAWINGS**Docket No.  
JP9199990054 (13611)

In Re Application Of: Tomio Amano

Application No.	Filing Date	Confirmation No.	Examiner	Customer No.	Group Art Unit
09/621,567	July 21, 2000	5005	Hussein Akhavannik	23389	2621

Invention: **METHOD AND DEVICE FOR EMBEDDING AND DETECTING WATERMARKING INFORMATION INTO A BLACK AND WHITE BINARY DOCUMENT IMAGE**Address to:  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450**RECEIVED**

AUG 12 2004

Technology Center 2600

Transmitted herewith are:

11 sheets of formal drawing(s) for this application.

☒ Each sheet of drawing indicates the identifying indicia suggested in 37 CFR Section 1.84(c).  
SignatureWilliam C. Roch  
Registration No. 24,972

Dated: August 9, 2004

I certify that this document and attached formal drawings are being deposited on 8/9/04 with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

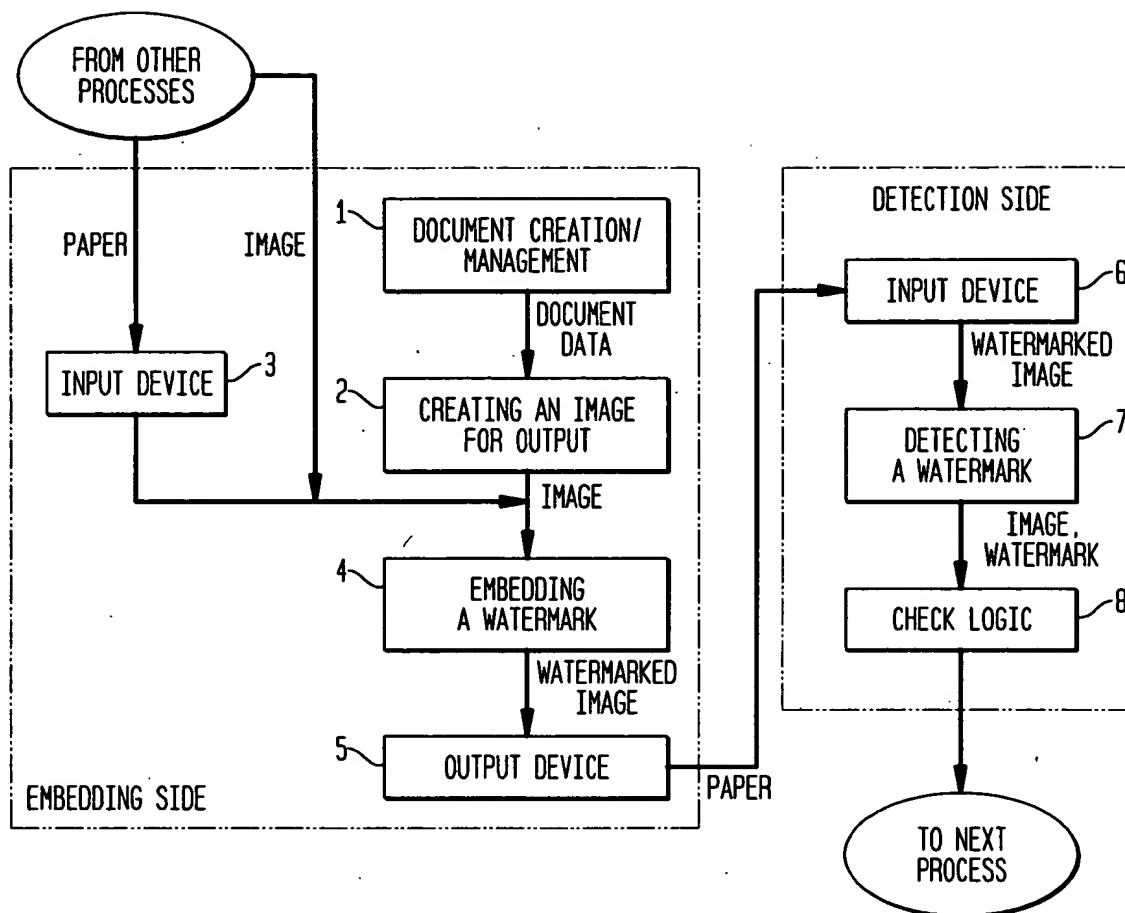
Signature of Person Mailing Correspondence

William C. Roch

Typed or Printed Name of Person Mailing Correspondence



FIG. 1

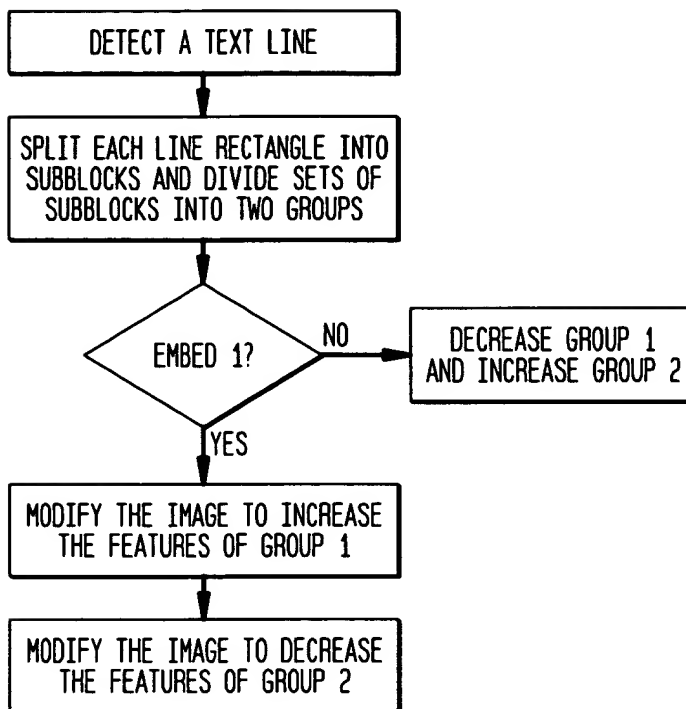




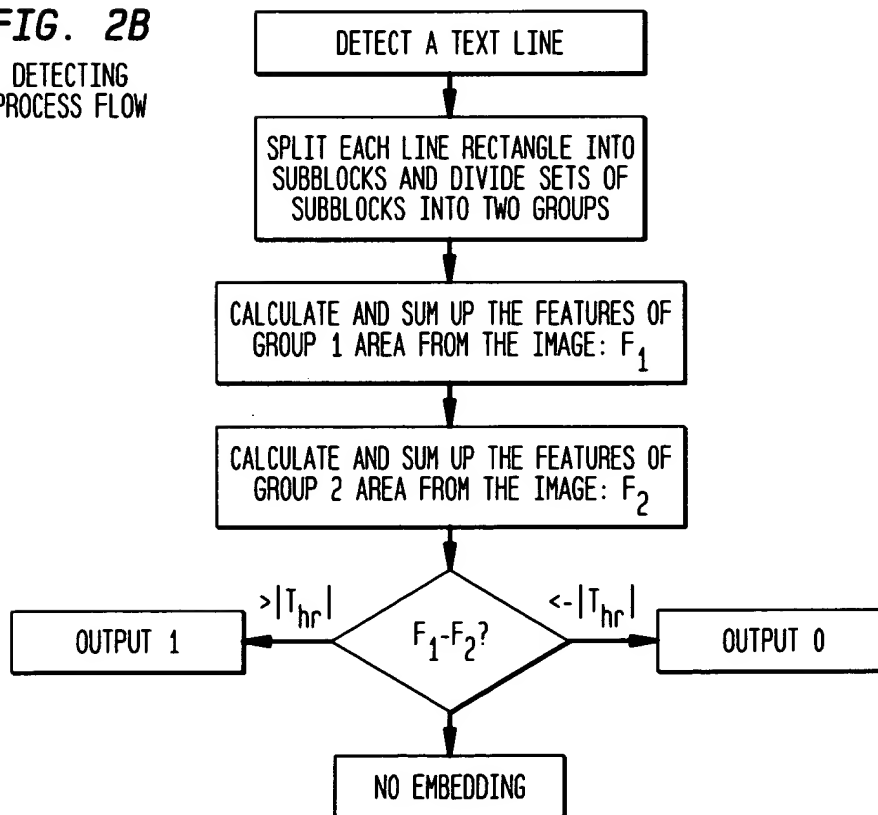
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**FIG. 2A**  
EMBEDDING  
PROCESS FLOW



**FIG. 2B**  
DETECTING  
PROCESS FLOW



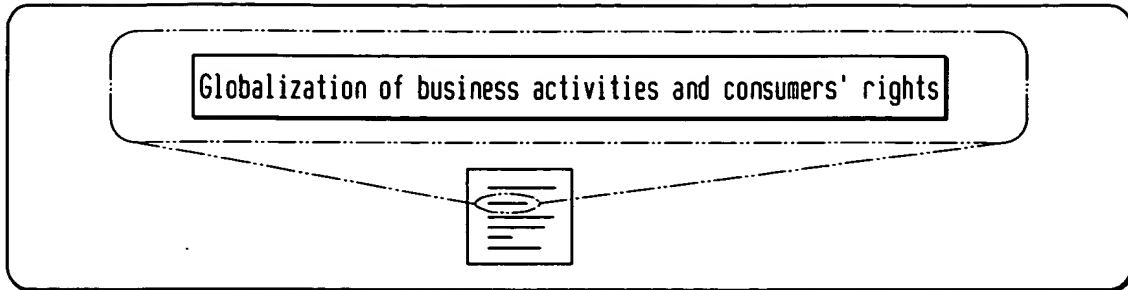




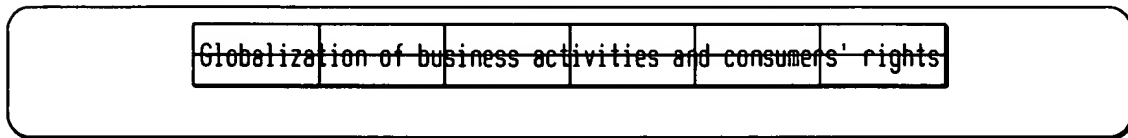
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**FIG. 3A**  
TEXT LINE RECTANGLE



**FIG. 3B**  
EXAMPLE OF SPLITTING INTO SUBBLOCKS



**FIG. 3C**  
EXAMPLE OF GROUPING ((1) AND (2) REPRESENT THE GROUPS THEY BELONG TO)

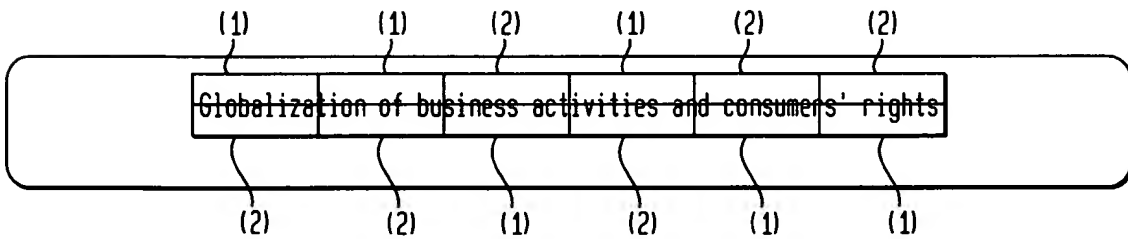
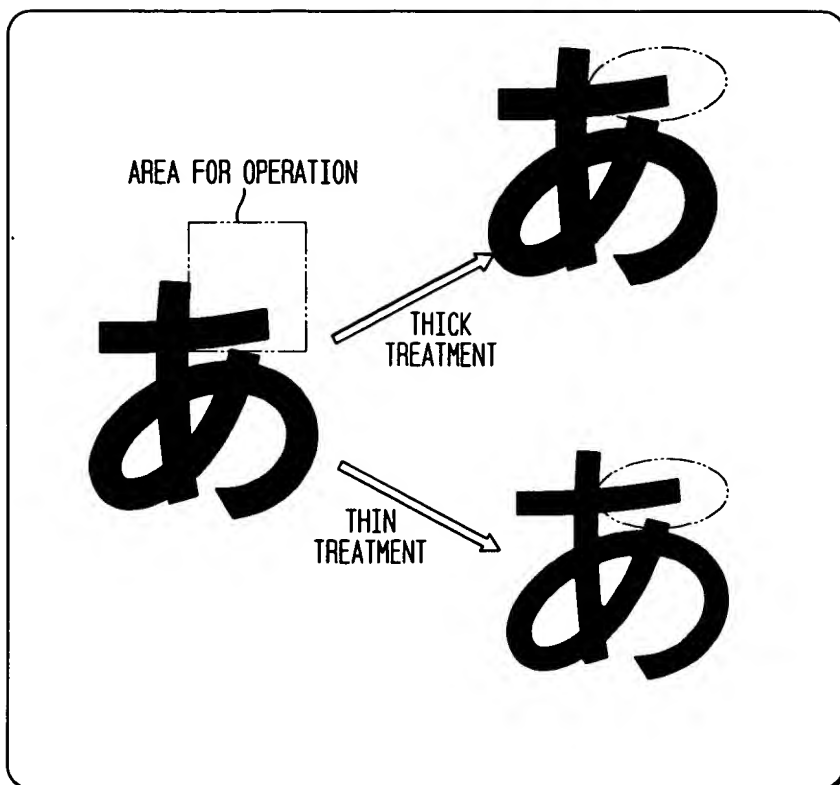


FIG. 4





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**FIG. 5A**

AN IMAGE WITH NO EMBEDDING

IT HAS BECOME POSSIBLE, DUE TO DIFFUSION OF THE INTERNET AND CD-ROM, TO EASILY  
DISTRIBUTE AND CIRCULATE DIGITAL CONTENTS. WHILE THIS PROMPTS DEVELOPMENT OF NEW  
APPLICATION/BUSINESS SUCH AS INFORMATION DELIVERY SERVICES UTILIZING THE INTERNET,  
WRONGFUL DUPLICATION OR TAMPERING OF THE CONTENTS TAKE PLACE

**FIG. 5B**

AN IMAGE WITH 1 EMBEDDED IN EACH LINE

IT HAS BECOME POSSIBLE, DUE TO DIFFUSION OF THE INTERNET AND CD-ROM, TO EASILY  
DISTRIBUTE AND CIRCULATE DIGITAL CONTENTS. WHILE THIS PROMPTS DEVELOPMENT OF NEW  
APPLICATION/BUSINESS SUCH AS INFORMATION DELIVERY SERVICES UTILIZING THE INTERNET,  
WRONGFUL DUPLICATION OR TAMPERING OF THE CONTENTS TAKE PLACE

**FIG. 5C**

AN IMAGE WITH 0 EMBEDDED IN EACH LINE

IT HAS BECOME POSSIBLE, DUE TO DIFFUSION OF THE INTERNET AND CD-ROM, TO EASILY  
DISTRIBUTE AND CIRCULATE DIGITAL CONTENTS. WHILE THIS PROMPTS DEVELOPMENT OF NEW  
APPLICATION/BUSINESS SUCH AS INFORMATION DELIVERY SERVICE UTILIZING THE INTERNET,  
WRONGFUL DUPLICATION OR TAMPERING OF THE CONTENTS TAKE PLACE

FIG. 6

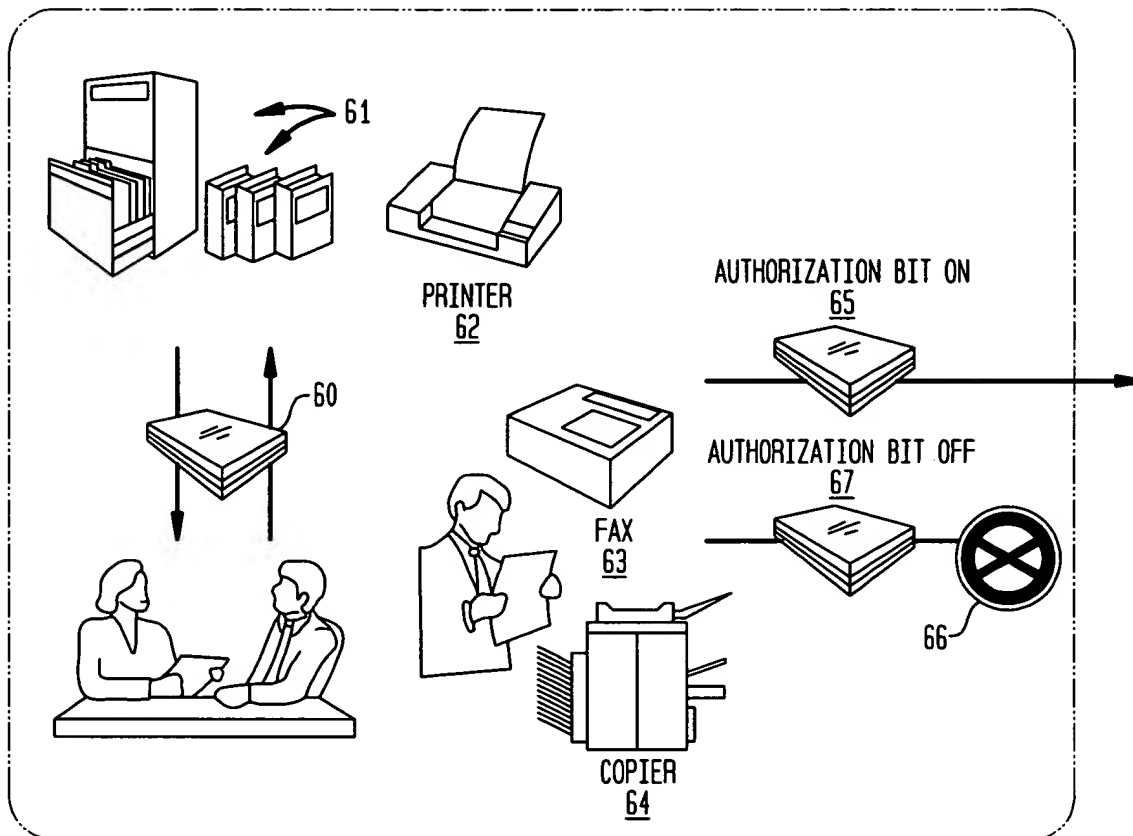
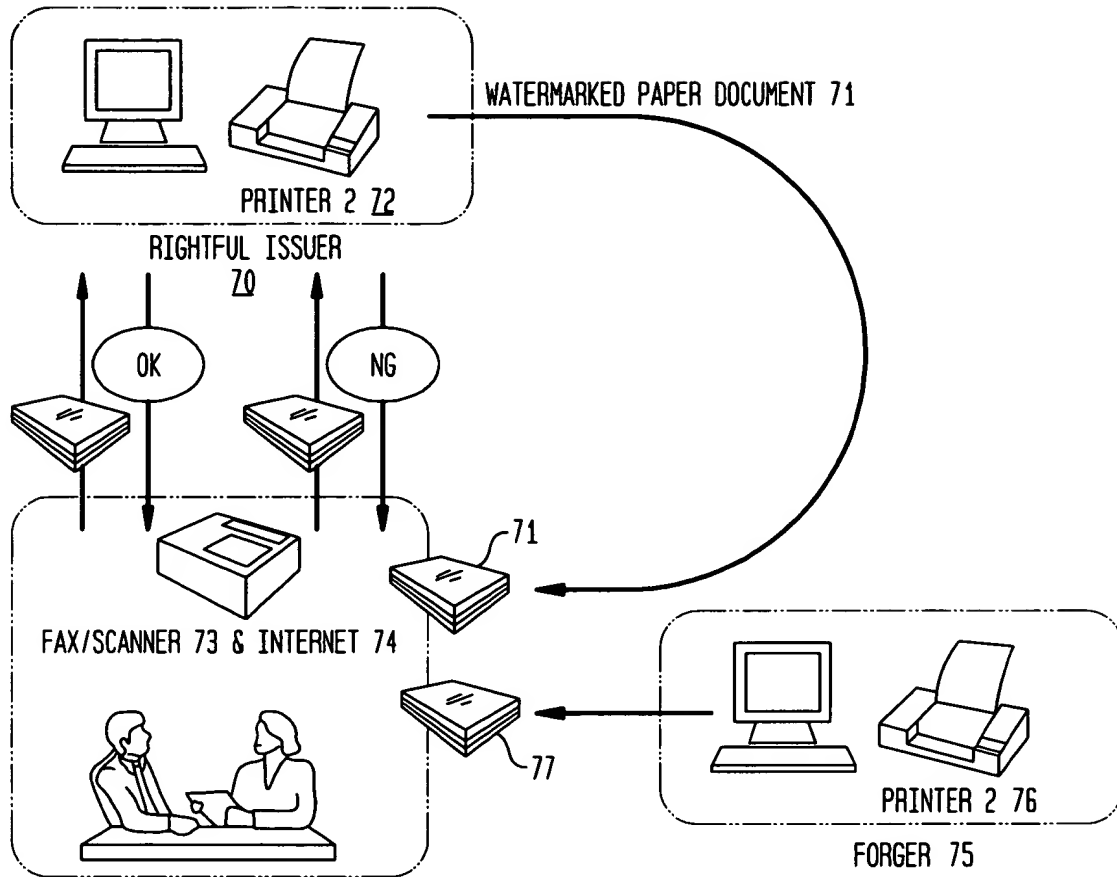


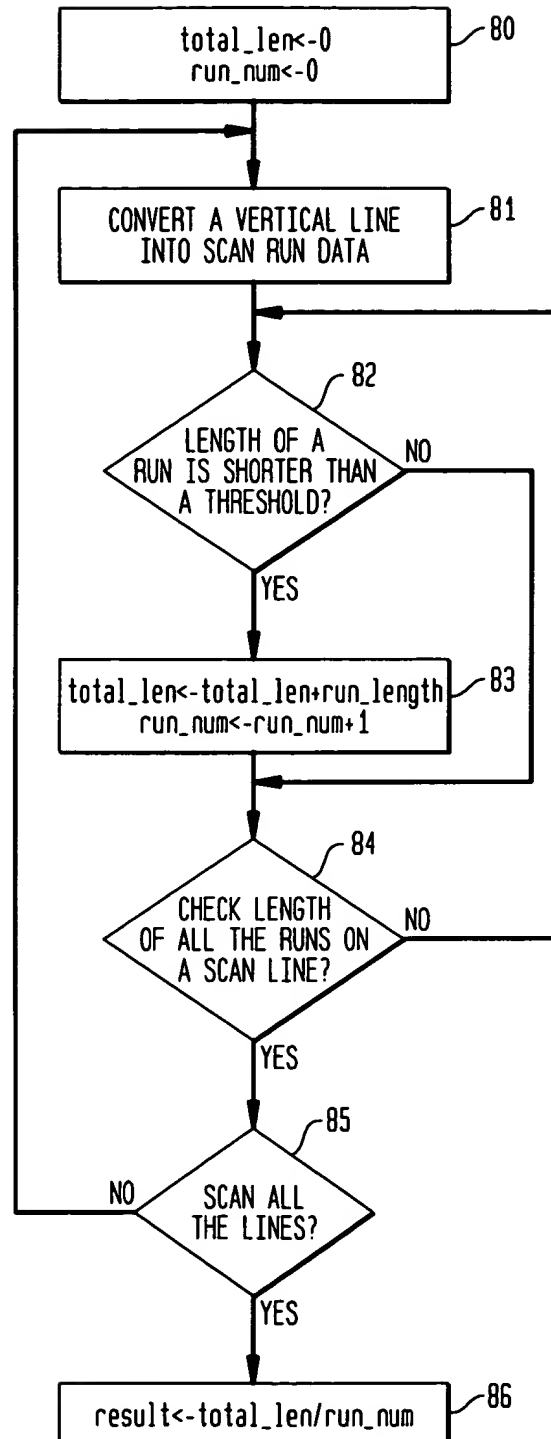
FIG. 7





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FIG. 8





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*FIG. 9*

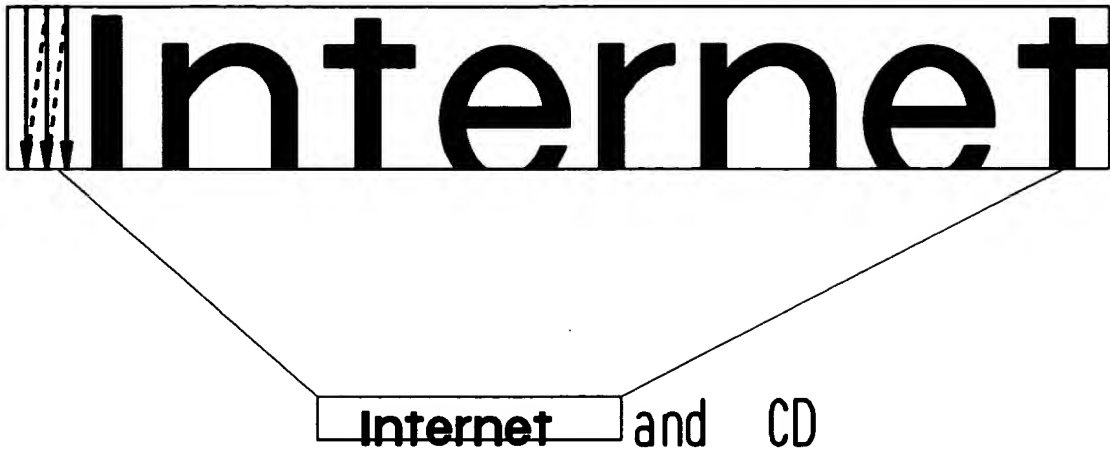




FIG. 10A

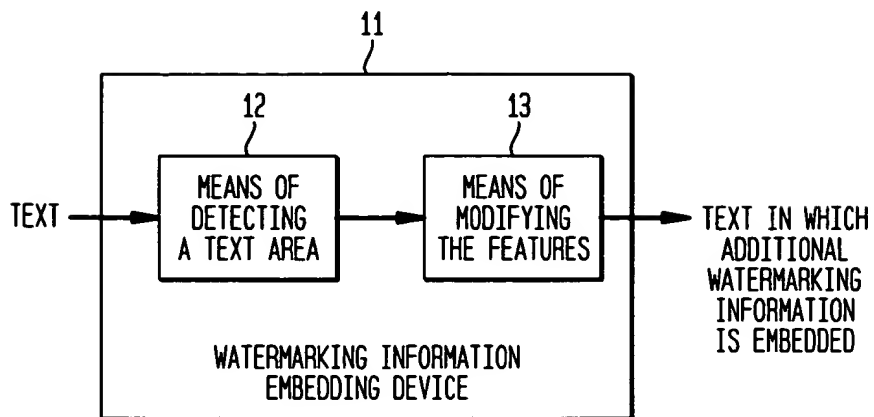
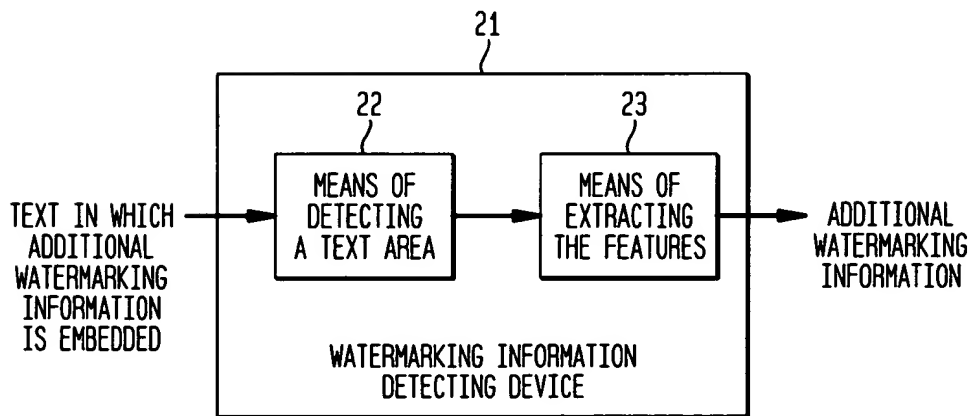


FIG. 10B



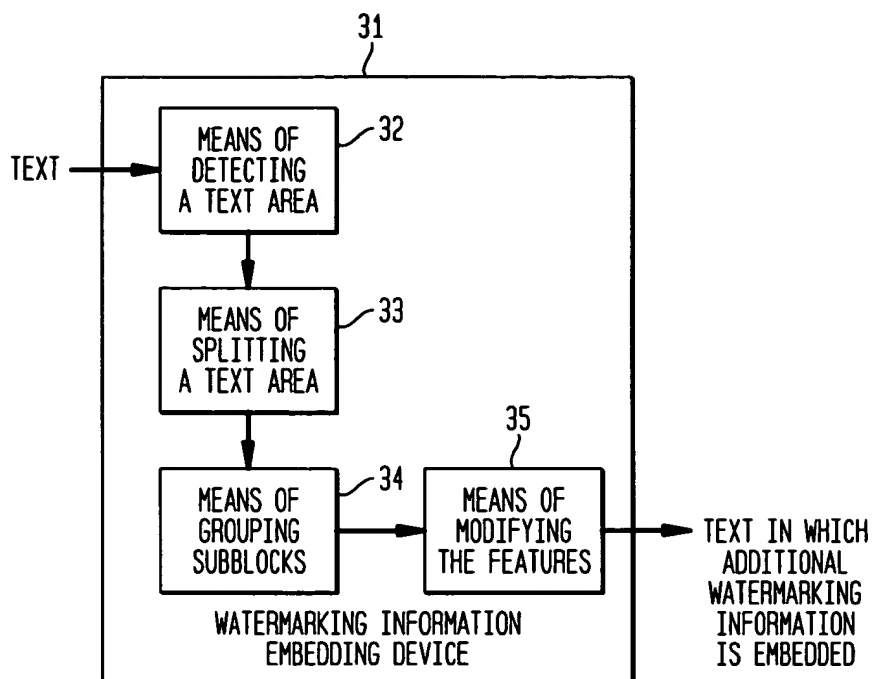




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**FIG. 11A**



**FIG. 11B**

